AMENDMENTS TO THE CLAIMS

Listing of Claims:

1. (Currently Amended) A fullerene-antibiotic conjugate comprising:

at least one targeting agent coupled to a fullerene molecule~~,~~;

at least one linking molecule~~,~~; and

at least two antibiotic molecules coupled to the fullerene molecule~~,~~, wherein at least two of the at least two antibiotic molecules are coupled to the fullerene molecule via ~~a~~ the ~~single~~ at least one linking molecule~~,~~, and wherein the at least one targeting agent ~~comprises at least one selected from the group~~ is selected from the group consisting of bone-targeting moieties, bacteria-targeting moieties, sporulating microbe-targeting moieties, antigen binding sites, and combinations thereof.

2. (Original) The fullerene-antibiotic conjugate according to claim 1 wherein the fullerene comprises C_{60}.

3. (Original) The fullerene-antibiotic conjugate according to claim 2 wherein the antibiotic comprises vancomycin.

4. (Currently Amended) The fullerene-antibiotic conjugate according to claim 2 wherein the conjugate comprises ~~from two to eight~~more than one linking molecules and wherein ~~at least one~~each linking molecule couples at least two antibiotic molecules to the fullerene molecule.

5. (Previously Presented) The fullerene-antibiotic conjugate according to claim 2 wherein the conjugate includes at least three antibiotic molecules per C_{60} center, at least two of the at least three antibiotic molecules coupled to the fullerene molecule via a single linking molecule.

6. (Original) The conjugate according to claim 1 wherein the antibiotic is selected from the group consisting of penicillins, cephalosporins, quinolones, fluoroquinolones, macrolides, lincosamines, carbepenems, conobactams, aminoglycosides, glycopeptides, tetracyclines,

sulfonamides, rifampin, oxazolidonones, and streptogramins.

7. (Previously Presented) The conjugate according to claim 9, wherein the at least one targeting agent comprises diphosphonate.

8. (Currently Amended) The conjugate according to claim 1 wherein the at least one targeting agent is selected from the group consisting of targeting agents ~~comprising~~ having at least one antigen bonding site ~~selected from the group consisting of~~, targeting agents derived from antibodies against anthrax, ~~and~~ antibodies against anthrax spores, and combinations thereof.

9. (Previously Presented) The conjugate according to claim 1, wherein the at least one targeting agent comprises a bone-targeting moiety.

10. (Original) An antibiotic treatment comprising an aerosol mist comprising the fullerene-antibiotic conjugate of claim 1.

11. (Withdrawn) A method for making a fullerene(C_{60})-antibiotic conjugate, comprising:

a) synthesizing a linker precursor (I);

b) reacting the linker precursor (I) with C_{60} via a Bingel-reaction, to produce a fullerene-linker conjugate (II);

c) hydrolyzing the fullerene-linker conjugate (II), resulting in a desired derivative of C_{60} (III); and

d) reacting the derivative (III) with a desired antibiotic to produce a fullerene-antibiotic conjugate (IV).

12. (Withdrawn) The method according to claim 11 wherein the linker precursor is a malonate having t-Boc-protected amino groups.

13. (Withdrawn) The method according to claim 11 wherein the derivative made in step c) is

an amino derivative.

14. (Withdrawn) The method according to claim 11 wherein the Bingel-reaction in step b) is carried out in toluene.

15. (Withdrawn) The method according to claim 11 wherein step c) is carried out using trifluoroacetic acid.

16. (Withdrawn) The method according to claim 11 wherein the step d) is carried out in a DMF/DMSO solvent mixture.

17. (Withdrawn) The method according to claim 11 wherein step d) is carried out using DIEA as a base and HBTU as a coupling agent.

18. (Withdrawn) The method according to claim 11 wherein the step e) is carried out using acetonitrile.

19. (Withdrawn) The method according to claim 11, further including precipitating a fullerene-antibiotic conjugate (IV) from the reaction mixture.

20. (Withdrawn) The method according to claim 19, further including the additional step of washing the precipitated a fullerene-antibiotic conjugate (IV).

21. (Withdrawn) The method according to claim 11, further including the step of incorporating the fullerene-antibiotic conjugate (IV) into a pharmaceutical composition.

22. (Cancelled)

23. (Currently Amended) A pharmaceutical composition comprising:

a fullerene-antibiotic conjugate including at least one targeting agent coupled to a fullerene molecule~~,~~;

at least one linking molecule~~,~~; and

at least two antibiotic molecules coupled to the fullerene molecule~~,~~, wherein at least two of the at least two antibiotic molecules are coupled to the fullerene molecule via ~~a~~ the single linking molecule~~,~~, and wherein the at least one targeting agent comprises at least one selected from the group consisting of bone-targeting moieties, bacteria-targeting moieties, sporulating microbe-targeting moieties, antigen binding sites, and combinations thereof, said conjugate being present in a pharmaceutically acceptable carrier.

24.-26. (Cancelled)

27. (Previously Presented) The conjugate according to claim 1, wherein said conjugate is water-soluble.

28. (Previously Presented) The pharmaceutical composition of claim 23, wherein said conjugate is water-soluble.

29. (New) The method of claim 1 wherein the at least one linking molecule comprises a malonate, a serinol, or combinations thereof.

30. (New) The method of claim 1 comprising eight linking molecules, wherein each linking molecule is a malonate group.

31. (New) The pharmaceutical composition of claim 23 wherein the at least one linking molecule comprises a malonate, a serinol, or combinations thereof.

32. (New) The pharmaceutical composition of claim 23 comprising eight linking molecules, wherein each linking molecule is a malonate group.